#### What is claimed is:

 A colored dispersion comprising a polymer and a dye represented by General Formula (1):

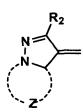
General Formula (1)

X = D-B

wherein X is a group represented by General Formulas (1-1) to (1-15); D is a nitrogen atom or  $=CR_1-$ ,  $R_1$  being a hydrogen atom or a substituent; and B is a group represented by General Formulas (2-1) to (2-16):

# General Formula (1-1)

# General Formula (1-4)



# General Formula (1-7)

$$R_2$$
 $N$ 
 $N$ 
 $R_3$ 
 $R_4$ 

#### General Formula (1-10)

$$0 = \begin{pmatrix} R_2 \\ 0 = R_3 \end{pmatrix}$$

# General Formula (1-13)

# General Formula (1-2)

$$R_2$$
  $N$   $R_4$ 

# General Formula (1-5)

General Formula (1-8)

General Formula (1-11)

$$O = \begin{matrix} R_3 & R_2 \\ \\ N & \\ R_5 & O \end{matrix}$$

General Formula (1-14)

$$R_2$$
 $N$ 
 $N$ 
 $N$ 
 $N$ 
 $N$ 
 $N$ 

# General Formula (1-3)

$$R_3$$

# General Formula (1-6)

# General Formula (1-9)

# General Formula (1-12)

$$R_6$$
 $N$ 
 $R_5$ 
 $R_5$ 

# General Formula (1-15)

$$\begin{array}{c|c}
R_2 \\
N \\
N \\
N \\
R_3
\end{array}$$

General Formula (2-1)

$$R_5$$
 $R_2$ 
 $R_5$ 
 $N$ 
 $O-R_4$ 

General Formula (2-4)

$$R_2$$
 $N$ 
 $N$ 
 $R_3$ 
 $N$ 
 $R_4$ 

General Formula (2-7)

General Formula (2-10)

$$R_5$$
 O  $R_6$  O-Ra

General Formula (2-13)

$$R_6 \sim N$$
 $N \sim R_2$ 
 $N \sim N$ 
 $R_5 \sim N \sim N$ 

General Formula (2-16)

General Formula (2-2)

$$\begin{array}{c}
R_2 \\
N \\
O \\
O - Ra
\end{array}$$

General Formula (2-5)

General Formula (2-8)

$$R_2$$
 $N$ 
 $R_3$ 
 $R_4$ 

General Formula (2-11)

$$O = \begin{matrix} R_2 \\ Q - R_3 \end{matrix}$$

General Formula (2-14)

General Formula (2-3)

$$R_2$$
  $N$   $R_3$ 

General Formula (2-6)

General Formula (2-9)

General Formula (2-12)

General Formula (2-15)

$$R_2$$
 $N$ 
 $N$ 
 $R_3$ 

wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_a$  each is a hydrogen atom or a substituent, provided that  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , or  $R_a$  may be jointed together to form a ring; and Z is a group of atoms which forms a 5- or 6-membered heterocyclic ring containing a nitrogen atom in the heterocyclic ring, provided that the heterocyclic ring may have a substituent or may be further condensed with a ring.

- 2. The colored dispersion of claim 1, wherein X in General Formula (1) is represented by General Formula (1-2), General Formula (1-4), General Formula (1-5) or General Formula (1-6).
- 3. The colored dispersion of claim 1, wherein B in General Formula (1) is represented by General Formula (2-3), General Formula (2-4), General Formula (2-5), General Formula (2-6), or General Formula (2-7).
- 4. The colored dispersion of claim 1, wherein X in General Formula (1) is represented by General Formula (1-2) or General Formula (1-4).

- 5. The colored dispersion of claim 1, wherein B in General Formula (1) is represented by General Formula (2-3) or General Formula (2-5).
- 6. The colored dispersion of claim 1, wherein X in General Formula (1) is represented by General Formula (1-4).
- 7. The colored dispersion of claim 1, wherein B in General Formula (1) is represented by General Formula (2-3).
- 8. The colored dispersion of claim 1, wherein X in General Formula (1) is represented by General Formula (1-4) and B in General Formula (1) is represented by General Formula (2-3).
- 9. The colored dispersion of claim 1, wherein X or B in General Formula (1) is substituted with at least one hydrogen bonding group selected from the group consisting of -OH, -NHSO<sub>2</sub>Rb, -NHCOORb, -NHCONHRb, or -NHCORc, Rb being a substituent, and Rc being an aryl group, a heterocyclic group, or a branched alkyl group.
- 10. The colored dispersion of claim 1, wherein X or by B in General Formula (1) is substituted with a hydrogen bonding

group, and the hydrogen bonding group forms a hydrogen bond with either a nitrogen atom or an oxygen atom in the heterocyclic ring represented by General Formulas (1-1) to (1-15) or General Formulas (2-1) to (2-16).

- 11. The colored dispersion of claim 9, wherein X in General Formula (1) is represent by General Formula (1-4), General Formula (1-5) or General Formula (1-6).
- 12. The colored dispersion of claim 9, wherein B in General Formula (1) is represent by General Formula (2-3) or General Formula (2-4).
- 13. The colored dispersion of claim 9, wherein the hydrogen bonding group is -OH or  $-NHSO_2Rb$ , Rb being a substituent.
- 14. The colored dispersion of claim 1, wherein the dye is represented by General Formula (2):

General Formula (2)

$$R_2$$
 $N$ 
 $N$ 
 $R_7$ 
 $N$ 
 $N$ 
 $R_8$ 
 $R_9$ 

wherein  $R_2$  is a hydrogen atom or a substituent; D is a nitrogen atom or =CR<sub>1</sub>-,  $R_1$  being a hydrogen atom or a substituent; B is a group represented by General Formulas (2-1) to (2-16);  $R_7$  and  $R_8$  each being a substituent; and  $R_9$  being a hydrogen atom or a substituent.

- 15. The colored dispersion of claim 14, wherein B is represented by General Formulas (2-3), (2-4), (2-5), (2-6) or (2-7).
- 16. The colored dispersion of claim 14, wherein B is represented by General Formula (2-3), or General Formula (2-5).
- 17. The colored dispersion of claim 14, wherein B is represented by General Formula (2-3).

18. A colored dispersion comprising a polymer and a dye represented by General Formula (3):

General Formula (3)

wherein A is a residue of a dye represented by General Formula (1); L is a divalent linking group or a single bond; G is a group comprising a fade preventing group for the dye residue; and q is an integer of 1 or 2, provided that when q is 2, each -L-G may be the same or different.

19. The colored dispersion of claim 18, wherein G in General Formula (3) is a residue of a compound selected from the group consisting of General Formulas (4) to (9), the residue being a part of the compound which is eliminated a hydrogen atom from the compound:

# Genaral Formula (4)

# X<sub>101</sub> R<sub>102</sub>

# Genaral Formula (5)

# Genaral Formula (6)

# Genaral Formula (7)

# Genaral Formula (8)

$$E_1$$
 $M_2$ 
 $E_2$ 
 $R_{123}$ 
 $R_{124}$ 
 $R_{125}$ 
 $R_{126}$ 

# Genaral Formula (9)

wherein  $R_{101}$  represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group, a heterocyclic group, a silyl group, or a phosphino group;  $X_{101}$  represents -O-, -S-, or -(NR<sub>d</sub>)-, wherein  $R_d$  represents a hydrogen atom, an alkyl group, or an aryl group;  $R_{102}$ ,  $R_{103}$ ,  $R_{104}$ ,  $R_{105}$ , and  $R_{106}$  each represents a hydrogen atom or a non-metallic substituent and substituents at the ortho position of  $R_{102}$  through  $R_{106}$  can be joined together to form a 5- to 7-membered ring;  $R_{107}$ 

represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group, a hydroxyl group, an acyl group, a sulfonyl group, or a sulfinyl group; W represents a group of nonmetallic atoms necessary to form a 5- to 7-membered ring having either an oxygen atom or a nitrogen atom;  $R_{108}$ ,  $R_{109}$ ,  $R_{110}$ , and  $R_{111}$  each represents a hydrogen atom or a nonmetallic substituent;  $R_{112}$ ,  $R_{113}$ ,  $R_{114}$ ,  $R_{115}$ ,  $R_{116}$ ,  $R_{117}$ , and  $R_{118}$ each represents a non-metallic substituent exhibiting an ultraviolet ray absorbing function;  $M_1$  and  $M_2$  each represents copper, cobalt, nickel, palladium, or platinum; M3 represents nickel, cobalt, or iron;  $R_{119}$ ,  $R_{120}$ ,  $R_{121}$ ,  $R_{119}$ ,  $R_{120}$ , and  $R_{121}$ each represents a hydrogen atom, an alkyl group, or an aryl group;  $R_{122}$  and  $R_{122}$ ' each represents a hydrogen atom, an alkyl group, an aryl group, a hydroxyl group, an alkoxy group, or an aryloxy group;  $X_{102}$  and  $X_{103}$  each represents -0-, or -S-; each substituent of  $R_{119}$  through  $R_{122}$  and  $R_{119}'$  through  $R_{122}'$  can be joined together with an adjacent group to form an aromatic ring or a 5- to 8-membered ring;  $E_1$  and  $E_3$  each independently represents -O-, -S-, or -N( $R_{131}$ )-; an  $E_1$ -M2 bond or an  $E_3$ -M2 bond may be a coordinate bond and in such cases,  $E_1$  and  $E_2$ each represents a hydroxyl group, a mercapto group, an alkoxy group, an alkylthio group, or  $-N(R_{131})(R_{132})$ , wherein  $R_{131}$  and

 $R_{132}$  each represents a hydrogen atom, an alkyl group, an aryl group, or a hydroxyl group;  $E_2$  represents -O-, -S-, or -N( $R_{133}$ )-, wherein  $R_{133}$  represents a hydrogen atom or an aryl group;  $R_{123}$  through  $R_{126}$  each independently represents a hydrogen atom, an alkyl group or an aryl group; herein at least two substituents selected from the group consisting of  $R_{123}$  and  $R_{124}$ ,  $R_{125}$  and  $R_{126}$ , and  $R_{124}$  and  $R_{125}$  can be joined together to form a 5- to 8-membered ring; F represents a compound which is capable of coordinating to  $M_2$ , and the number of coordination positions of the compound is 1 to 5;  $R_{127}$  through  $R_{130}$  each independently represents a hydrogen atom, an alkyl group, an aryl group, or a heterocyclic group;  $X_{104}$  through  $X_{107}$  each represents -S-, or -O-;  $M_3$  represents nickel, cobalt, or iron;  $R_{127}$  and  $R_{128}$  or  $R_{129}$  and  $R_{130}$ , can be joined together to form a ring structure.

- 20. The colored dispersion of claim 1, wherein the dispersion comprises particles having a core/shell structure, and the dye and the polymer are incorporated in the core portion.
- 21. An ink-jet ink comprising the colored particle dispersion of claim 1.

- 22. A method for recording an image comprising a step of: jetting a droplet of an ink-jet ink of claim 21 onto a surface of a recording sheet.
- 23. A dye represented by General Formula (1), wherein X or B in General Formula (1) is substituted with at least one hydrogen bonding group selected from the group consisting of -OH, -NHSO<sub>2</sub>Rb, -NHCOORb, -NHCONHRb, or -NHCORc, Rb being a substituent and Rc being an aryl group, a heterocyclic group, or a branched alkyl group,

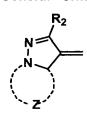
General Formula (1)

X = D-B

wherein X is a group represented by General Formulas (1-1) to (1-15); D is a nitrogen atom or  $=CR_1-$ ,  $R_1$  being a hydrogen atom or a substituent; and B is a group represented by General Formulas (2-1) to (2-16):

# General Formula (1-1)

# General Formula (1-4)



General Formula (1-7)

$$R_2$$
 $N$ 
 $N$ 
 $R_3$ 
 $R_4$ 

General Formula (1-10)

$$0 = \begin{pmatrix} R_2 \\ 0 = R_3 \end{pmatrix}$$

General Formula (1-13)

# General Formula (1-2)

$$R_2$$
  $N$   $R_4$ 

General Formula (1-5)

General Formula (1-8)

General Formula (1-11)

$$O = \begin{matrix} R_3 & R_2 \\ \\ N & \\ R_5 & O \end{matrix}$$

General Formula (1-14)

$$R_2$$
 $N$ 
 $N$ 
 $N$ 
 $R_3$ 

# General Formula (1-3)

$$R_2$$
  $N$ 

# General Formula (1-6)

General Formula (1-9)

$$R_5$$
  $O$   $S$   $N$   $N$   $R_6$   $O$ 

General Formula (1-12)

$$\begin{array}{c|c}
R_6 \\
N \\
N \\
R_5
\end{array}$$

General Formula (1-15)

General Formula (2-1)

General Formula (2-4)

$$R_3$$
 $N$ 
 $R_3$ 
 $N$ 
 $R_4$ 

General Formula (2-7)

General Formula (2-10)

$$S = N$$
 $N = N$ 
 $N =$ 

General Formula (2-13)

$$R_6$$
 $R_2$ 
 $R_5$ 
 $R_2$ 
 $R_5$ 
 $O-Ra$ 

General Formula (2-16)

General Formula (2-2)

General Formula (2-5)

General Formula (2-8)

$$R_2 \xrightarrow{N-N} R_3 \\ R_4$$

General Formula (2-11)

$$O = \begin{pmatrix} R_2 \\ Q \\ R_3 \end{pmatrix}$$

General Formula (2-14)

General Formula (2-3)

$$R_2$$
 $R_3$ 

General Formula (2-6)

General Formula (2-9)

General Formula (2-12)

$$O = \bigvee_{N=0}^{R_3} \bigcap_{N=0}^{R_2}$$

General Formula (2-15)

$$R_2$$
 $N$ 
 $N$ 
 $R_3$ 

wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_a$  each is a hydrogen atom or a substituent, provided that  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , or  $R_a$  may be jointed together to form a ring; and Z is a group of atoms which forms a 5- or 6-membered heterocyclic ring containing a nitrogen atom in the heterocyclic ring, provided that the heterocyclic ring may have a substituent or may be further condensed with a ring.

- 24. The dye of claim 23, wherein X or B in General Formula (1) is substituted with a hydrogen bonding group, and the hydrogen bonding group forms a hydrogen bond with either a nitrogen atom or an oxygen atom in the heterocyclic ring represented by General Formulas (1-1) to (1-15) or General Formulas (2-1) to (2-16).
- 25. The dye of claim 23, wherein X in General Formula (1) is represent by General Formula (1-4), General Formula (1-5) or General Formula (1-6).
- 26. The dye of claim 23, wherein B in General Formula (1) is represent by General Formula (2-3) or General Formula (2-4).

- 27. The dye of claim 23, wherein the hydrogen bonding group is -OH or  $-NHSO_2Rb$ , Rb being a substituent.
- 28. The dye of claim 23, wherein the dye is represented by General Formula (2):

General Formula (2)

$$R_{2}$$
 $N$ 
 $D-B$ 
 $R_{7}$ 
 $N$ 
 $N$ 
 $R_{8}$ 
 $R_{9}$ 

wherein  $R_2$  is a hydrogen atom or a substituent; D is a nitrogen atom or = $CR_1$ -,  $R_1$  being a hydrogen atom or a substituent; B is a group represented by General Formulas (2-1) to (2-16);  $R_7$  and  $R_8$  each being a substituent; and  $R_9$  being a hydrogen atom or a substituent.

29. The dye of claim 28, wherein B in General Formula (2) is represented by General Formula (2-3), General Formula (2-4), General Formula (2-5), General Formula (2-6), or General Formula (2-7).

30. The dye of claim 28, wherein B in General Formula (2) is represented by General Formula (2-3) or General Formula (2-5).

- 31. The dye of claim 28, wherein B in General Formula (2) is represented by General Formula (2-3)
- 32. A dye represented by General Formula (3):

  General Formula (3)

$$A \leftarrow L \rightarrow G$$

wherein A is a residue of a dye represented by General Formula (1); L is a divalent linking group or a single bond; G is a group comprising a light fade preventing group for the dye residue; and q is an integer of 1 or 2, provided that when q is 2, each -L-G may be the same or different.

33. The dye of claim 32, wherein G in General Formula (3) is selected from the group consisting of General Formulas (4) to (9):

# Genaral Formula (4)

# Genaral Formula (5)

#### Genaral Formula (6)

# Genaral Formula (7)

#### Genaral Formula (8)

# Genaral Formula (9)

wherein R<sub>101</sub> represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group, a heterocyclic group, a silyl group, or a phosphino group;  $X_{101}$  represents -O-, -S-, or  $-(NR_d)$ -, wherein  $R_d$  represents a hydrogen atom, an alkyl group, or an aryl group;  $R_{102},\ R_{103},\ R_{104},\ R_{105},$  and  $R_{106}$  each represents a hydrogen atom or a non-metallic substituent and substituents at the ortho position of  $R_{102}$  through  $R_{106}$  can be joined together to form a 5- to 7-membered ring; R<sub>107</sub>

represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group, a hydroxyl group, an acyl group, a sulfonyl group, or a sulfinyl group; W represents a group of nonmetallic atoms necessary to form a 5- to 7-membered ring having either an oxygen atom or a nitrogen atom; R<sub>108</sub>, R<sub>109</sub>,  $R_{110}$ , and  $R_{111}$  each represents a hydrogen atom or a nonmetallic substituent;  $R_{112}$ ,  $R_{113}$ ,  $R_{114}$ ,  $R_{115}$ ,  $R_{116}$ ,  $R_{117}$ , and  $R_{118}$ each represents a non-metallic substituent exhibiting an ultraviolet ray absorbing function;  $M_1$  and  $M_2$  each represents copper, cobalt, nickel, palladium, or platinum; M3 represents nickel, cobalt, or iron;  $R_{119}$ ,  $R_{120}$ ,  $R_{121}$ ,  $R_{119}'$ ,  $R_{120}'$ , and  $R_{121}'$ each represents a hydrogen atom, an alkyl group, or an aryl group;  $R_{122}$  and  $R_{122}'$  each represents a hydrogen atom, an alkyl group, an aryl group, a hydroxyl group, an alkoxy group, or an aryloxy group;  $X_{102}$  and  $X_{103}$  each represents -O-, or -S-; each substituent of  $R_{119}$  through  $R_{122}$  and  $R_{119}{}^{\prime}$  through  $R_{122}{}^{\prime}$  can be joined together with an adjacent group to form an aromatic ring or a 5- to 8-membered ring;  $E_1$  and  $E_3$  each independently represents -O-, -S-, or -N( $R_{131}$ )-; an  $E_1$ -M2 bond or an  $E_3$ -M2 bond may be a coordinate bond and in such cases,  $E_1$  and  $E_2$ each represents a hydroxyl group, a mercapto group, an alkoxy group, an alkylthio group, or  $-N(R_{131})(R_{132})$ , wherein  $R_{131}$  and

 $R_{132}$  each represents a hydrogen atom, an alkyl group, an aryl group, or a hydroxyl group;  $E_2$  represents -O-, -S-, or -N( $R_{133}$ )-, wherein  $R_{133}$  represents a hydrogen atom or an aryl group;  $R_{123}$  through  $R_{126}$  each independently represents a hydrogen atom, an alkyl group or an aryl group; herein at least two substituents selected from the group consisting of  $R_{123}$  and  $R_{124}$ ,  $R_{125}$  and  $R_{126}$ , and  $R_{124}$  and  $R_{125}$  can be joined together to form a 5- to 8-membered ring; F represents a compound which is capable of coordinating to  $M_2$ , and the number of coordination positions of the compound is 1 to 5;  $R_{127}$  through  $R_{130}$  each independently represents a hydrogen atom, an alkyl group, an aryl group, or a heterocyclic group;  $X_{104}$  through  $X_{107}$  each represents -S-, or -O-;  $M_3$  represents nickel, cobalt, or iron;  $R_{127}$  and  $R_{128}$  or  $R_{129}$  and  $R_{130}$ , can be joined together to form a ring structure.

34. The dye of claim 32, wherein A in General Formula (3) is substituted with at least one hydrogen bonding group selected from the group consisting of -OH, -NHSO<sub>2</sub>Rb, -NHCOORb, -NHCONHRb, or -NHCORc, Rb being a substituent, and Rc being an aryl group, a heterocyclic group, or a branched alkyl group.

- 35. The dye of claim 28, wherein X or B in General Formula (2) is substituted with at least one hydrogen bonding group selected from the group consisting of -OH, -NHSO<sub>2</sub>Rb, -NHCOORb, -NHCONHRb, or -NHCORc, Rb being a substituent, and Rc being an aryl group, a heterocyclic group, or a branched alkyl group.
- 36. The dye of claim 34, wherein the hydrogen bonding group is -OH or  $-NHSO_2Rb$ , Rb being a substituent.
- 37. The dye of claim 35, wherein the hydrogen bonding group is -OH or  $-NHSO_2Rb$ , Rb being a substituent.